

REMARKS

Claims 1-5 were rejected under 35 USC 103(a) as being unpatentable over Iida (U.S. Patent No. 6,655,026) in view of Hayden, Sr. (U. S. Patent No. 4,258,084). The Examiner alleges that regarding claim 1 Iida discloses a connecting rod and states that the connecting rod can be substituted for generally any inner surface of a bearing into which a piston pin or a crank pin fits, and are strengthened by shot peening the surfaces. The Examiner states that since Iida is concerned with the inner surfaces of bearings into which piston pins would connect that it would have been obvious to one skilled in the art to have modified the inner surfaces of piston head pinhole with Iida's indentations as well to strengthen surfaces. The Examiner further states that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the shot peened indentations of Iida circular to provide a piston head pinhole with a stronger inner pinhole surface with good lubricate retention.

Although Claim 1 has now been amended to include that the indentations are introduced into the piston pinhole surfaces at room temperature, the rejection of the claim 1 over Iida and Hayden is traversed. Although a piston pin is disposed within a connecting rod as well as within holes of the piston, there is no showing except for hindsight that it would be obvious to provide an indentation to the pinholes of a piston as is done in the bearing surface of a connecting rod. The examiner states that Iida is analogous art because it discloses methods of improving surfaces of engine components. However, that is a broad and unsupported statement. Engine components vary differently from each other and have very different functions. The Examiner is making a blanket statement that shot-peening on one surface of an engine component would be analogous to what should be done on a surface of another engine component. The Examiner has not shown in any references except the Applicant's own mention that shot peening the pin hole surface of the piston has advantages. Therefore claim 1 is believed allowable over the cited prior art.

Further regarding the Examiner's statement that it would be obvious to one having ordinary skill in the art at the time the invention was made to know that cold-hardening processes such as shot-peening can be performed at room temperature. Again the Examiner is using

personal conjecture that shot-peening on a piston pinhole can be done at a temperature substantially below the point of recrystallization.

The Applicant requests additional proof from the Examiner with respect to the rejection of claim 2 (now part of claim 1) based on the Examiner's personal knowledge/conjecture. MPEP 2144.03 B states that the Examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his conclusion of common knowledge. Iida only discloses shot-peening the connecting rod after performing a carburizing and quenching process. None of the prior art show or disclose introducing the indentations at room temperature. Claim 1 is therefore believed to be allowable.

Claim 2 is cancelled. Dependent claims 3-5 are dependent upon claim 1 and are therefore believed to be allowable. New claims 6 and 7 are ultimately dependent upon claim 1 and provide features not shown or disclosed in the cited prior art. New claim 8 includes the step of shot-peening the piston pinhole surfaces by a blasting material and during the shot-peening step, inducing residual compressive stress in the pinhole surface by a cold working process. None of the cited prior art show or disclose the cold working process being applied at the same time as the shot-peening process. Therefore new claims 6-8 are believed to be allowable.

This amendment should place this case in condition for passing to issue. Such action is requested. If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

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Dated: November 5, 2007
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